

REMARKS

Claims 1-9 and 16-22 are pending. Figs. 8 and 9 have been replaced with amended drawing sheets. No new matter has been presented.

The drawings were objected to because Figs. 8 and 9 were not designated as prior art. Amended Figs. 8 and 9 accompany this response, and withdrawal of this objection is respectfully requested.

Claims 1, 2, 4, 7-8, 20 and 22 are rejected under 35 USC 102(b) as being anticipated by “Kiyomi”, JP2002-026450. This rejection is respectfully traversed.

According to the claimed invention, the second clad layer of the second conductivity type contains As atoms in the area near the laser resonator end face. Applicants refer the Examiner to paragraph [0037] for an explanation of the benefits of this claim feature. Applicants submit that Kiyomi fails to teach or suggest this feature.

Kiyomi discloses a semiconductor laser device having a second clad layer of a second conductivity type 28 as shown in Fig. 1. However, the second clad layer of a second conductivity type of Kazumasa et al. *does not* contain As atoms in the area near a laser resonator end face as clearly understood from Fig. 1, although Kiyomi may disclose that As may be contained in the diagonally shaded areas in Fig. 1. Thus, Kiyomi fails to teach or suggest this feature.

Further, claim 1 recites “wherein a portion of said active layer in an area near a laser resonator end face has a peak wavelength in photoluminescence that is smaller than a peak wavelength in photoluminescence in a portion of said active layer in a laser resonator inner area.” Applicants submit that Kiyomi fails to teach or suggest this feature.

Although Kiyomi seeks to reduce the effects of catastrophic optical damage (COD), it does so by making the band gaps of the active layer at both end sections of the optical waveguide larger than the band gap of the layer in the current injecting area of the center of the optical waveguide by performing heat treatment after impurity diffusion through ion implantation (see

abstract). This method is actually discussed in the Background of the Invention of this application (see paragraph [0018]-[0020]). Kiyomi does not, however, even suggest that a portion of the active layer in the area near the laser resonator face has a peak wavelength in photoluminescence that is smaller than a peak wavelength in photoluminescence in the portion of the active layer in the laser resonator inner area. Although the Examiner cites to paragraph [0019] to support his assertion that feature is indeed taught by Kiyomi, this portion of Kiyomi merely teaches that the band gap in the window region is larger than in the center of the optical waveguide, as discussed above. Thus, the features of claim 1 are not taught or suggested by Kiyomi.

The remaining claims are allowable at least due to their respective dependencies. Applicants request that this rejection be withdrawn.

Claims 1, 2 and 9 are rejected under 35 USC 102(b) as being anticipated by "Hiramoto", JP 09-326526. This rejection is respectfully traversed.

Hiramoto discloses a semiconductor laser device having a second clad layer of a second conductivity type 7 as shown in Fig. 2(b). However, Hiramoto fails to teach or suggest a second clad layer of a second conductivity type *in the area near a laser resonator end face* as shown in Fig. 2(b) and Fig. 4(b). Thus, Hiramoto fails to teach all of the claimed features.

Further, the Examiner asserts that Hiramoto teaches that a portion of the active layer in an area near a laser resonator end face has a peak wavelength in photoluminescence that is smaller than a peak wavelength in photoluminescence in a portion of the active layer in a laser resonator inner area, citing to paragraphs [0003] through [0005]. Applicants respectfully disagree.

Hiramoto provides a semiconductor laser device in which a ridge is formed in an area other than around the laser end face and a quantum well structure consisting of an active layer which is not positioned around the ridge and an active layer of the laser end face is made in a mixed crystal state. Hiramoto discloses that this structure ensures that the active layer of the laser end face is transparent for a laser beam without causing damage or rapid deterioration to the boundary face (see abstract). Paragraph [0003] of Hiramoto is a discussion of the drawbacks of the prior art and

does not mention anything relating to peak wavelengths in photoluminescence. Paragraphs [0004] and [0005] disclose the means for solving the problems discussed in paragraph [0003] and also fail to mention anything relating to peak wavelengths in photoluminescence. Thus, Hiramoto fails to teach or suggest the features of claim 1.

Claims 2 and 9 are allowable at least due to their respective dependencies. Applicants request that this rejection be withdrawn.

Claims 3, 16 and 19 are rejected under 35 USC 103(a) as being unpatentable over Kiyomi in view of Ueno, EPO 0437243 A2. This rejection is respectfully traversed.

Claims 3, 16 and 19 depend, at least indirectly, from claim 1. As stated above, Kiyomi fails to teach or suggest the above-noted features of claim 1. Ueno also fails to teach or suggest the above-noted features. Therefore, claims 3, 6 and 9 are allowable at least due to their respective dependencies. Applicants request that this rejection be withdrawn.

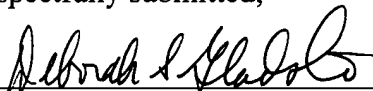
Claims 5, 6, 17, 18 and 21 are rejected under 35 USC 103(a) as being unpatentable over Kiyomi in view of Paoli, U.S. Patent 5,140,605. This rejection is respectfully traversed.

Claims 5, 6, 17, 18 and 21 depend, at least indirectly, from claim 1. As stated above, Kiyomi fails to teach or suggest the above-noted features of claim 1. Paoli also fails to teach or suggest the above-noted features. Therefore, claims 5, 6, 17, 18 and 21 are allowable at least due to their respective dependencies. Applicants request that this rejection be withdrawn.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 204552031400.

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Respectfully submitted,

By 

Deborah S. Gladstein

Registration No.: 43,636
MORRISON & FOERSTER LLP
1650 Tysons Blvd, Suite 300
McLean, Virginia 22102
(703) 760-7753

Attachments

REPLACEMENT SHEET

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include changes to Figs 8 and 9.

Attachment: 2 replacement sheets